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BOOK REVIEW

1994 Cern School of Computing

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The book under review is the proceedings of "Seventeenth CERN school of Computing" held in Sopron, Hungary. In the school, 47 lectures were delivered by the pioneer high energy physicists. The proceedings contain 15 articles.

The software and hardware developments in the field of high performance computing in embedded systems and its applications in communication and management are described in detail. The most of the articles deal with the computing techniques and computer architectures in the field of the processing of data from High Energy Physics experiments, distributed and heterogeneous computing and networked multimedia. The software development process and technology for data acquisition systems for high energy experiments has been discussed in detail, in most of the lectures. The GEANT package which is mainly used for the simulation of the passage of elementary particles through matter and also the visualisation of detectors, has been discussed. The use of the trigger system for selecting the interested particle – particle collision events and also removing the background system are explained in detail.

The use of computer becomes more importnat in modern sciences. In physics, it has widely been used in experiments as well as in theoretical calculations. In the experimental set-ups, the computers are mainly used in measuring, controlling of the devices and data analysis. The extensive use of computer in theoretical physics opens a new branch of physics *'computational physics.'* The modeling and simulation of a physical phenomenon plays an important role to guide the theoretical physicist for the development of new theories. The techniques including Monte Carlo method, Molecular Dynamics and Cellular automata and principles of the computer simulation and its applications in microscopic and macroscopic growth processes like crystallisation in equilibrium and non-equilibrium growth, are described in detail.

The architectures of reduced instruction set computer (RISC) and complex instruction set computer (CISC) and the problems associated with cache memories are well presented. Parallel computing is one of the standard item on the agenda of the Cern School of Computing. The hardware aspects in parallel program generation and its corresponding technology and also the parallel programming languages are described thoroughly. A short note on

supercomputer chip architecture for high speed visual processing is given at end of the proceedings.

The proceedings contain a detailed description about the computational techniques and its applications in high energy physics and statistical mechanics. The proceedings is very helpful for the physicists working in the field of experimental high energy physics and statistical physics.

S K Dᴇ
Department of Materials Science,
Indian Association for the Cultivation of Science,
Jadavpur, Calcutta-700 032